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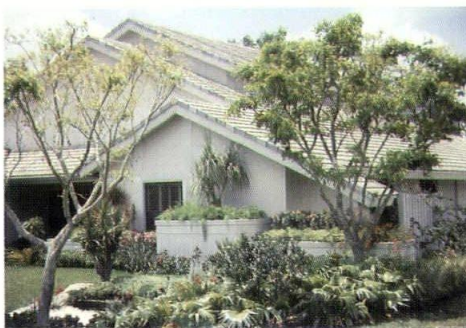


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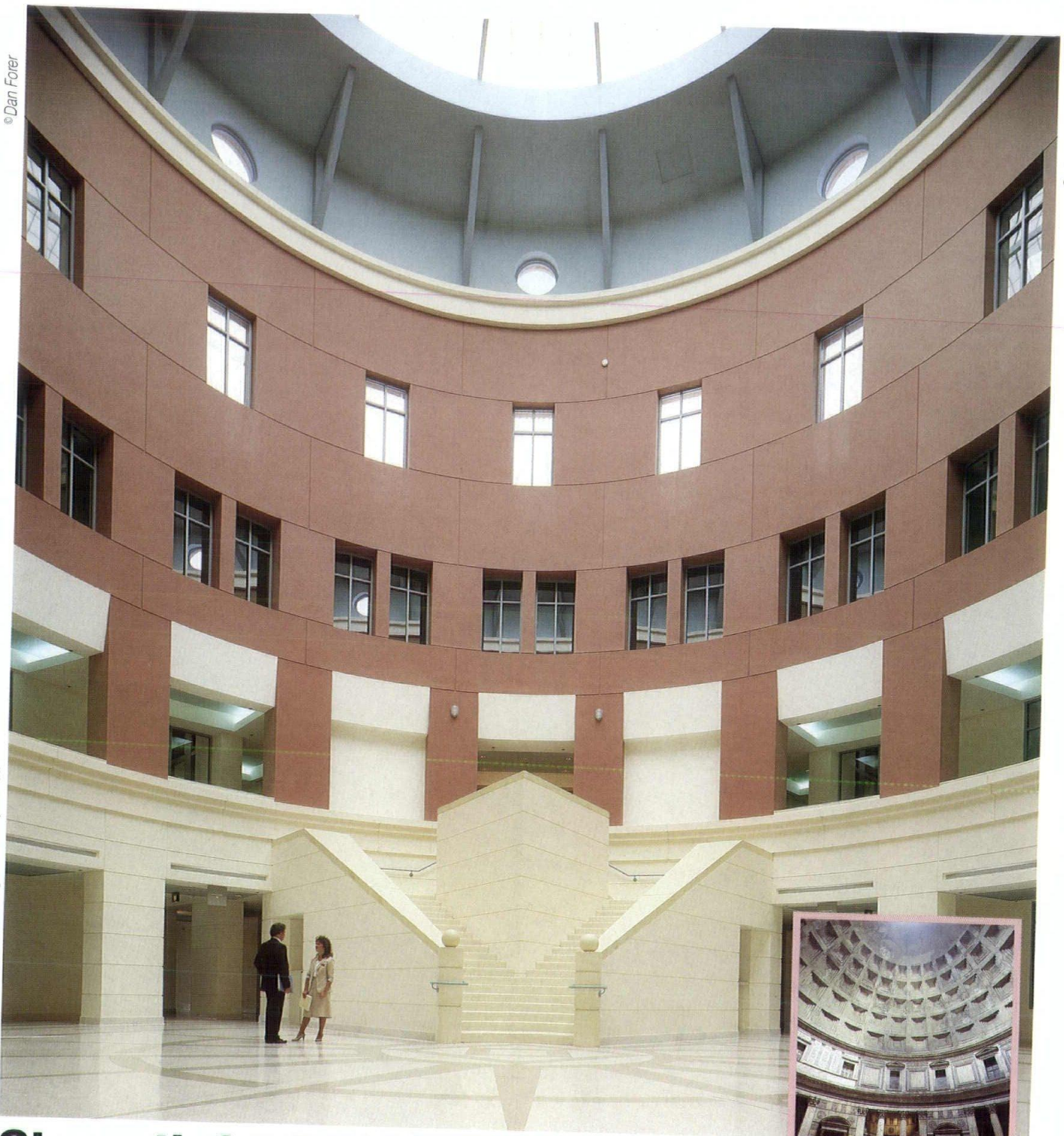
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Volusia County Administration Building DeLand, Florida

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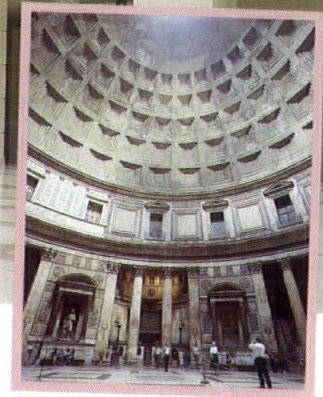
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On the cover is the Holocaust Memorial in Miami, Florida, which was designed, sculpted and photographed by architect Kenneth Treister, AIA.

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Florida lost a real pioneer last Spring when the First Lady of Art Deco, Barbara Baer Capitman, passed away at the age of 70. "My whole life", she once said, "has been Art Deco. I was born at the beginning of the period and grew up during the height of it. It's a thing of fate."

Capitman's birth and death coinciding with the popularity of Art Deco may be attributable to fate, but everything else that she accomplished in the name of architectural preservation was the result of hard work and perseverance. Though jokes abound in preservation circles about the proverbial "little old lady in tennis shoes" throwing herself in front of the wrecking ball, the truth is not far removed. In the case of Miami Beach, Capitman saw many important buildings lost to the wrecking ball and other questionable forms of progress. But, happily, she saw many more buildings saved and what survives her is, without question, the finest collection of Art Deco architecture to be found anywhere in the United States. Would we still have this wonderful collection of pastel palaces if it weren't for the diligence of one remarkable woman? Maybe. Maybe, not.

Barbara Capitman was known to me only through telephone calls and letters. Fortunately, I was on her mailing list. Sadly, I never met her personally. I knew her as a tireless crusader for a cause she felt strongly about . . . saving Miami Beach's architectural heritage. To that end, she raised money, raised the public consciousness and founded a number of important organizations including the Miami Design Preservation League, Art Deco Societies of America and the World Congress of Art Deco. And early on, she saw to it that the many blocks of wonderful buildings dating from the 1920s and 30s were listed on the National Register of Historic Places, the largest concentration of deco buildings to be so listed and recognized by the Federal government.

Aside from all of this, Barbara Baer Capitman did something that I perceive to be of extreme importance. She quite literally focused the world's attention on Florida architecture in a positive way. In a state which many believe possesses little of historical value, architecturally speaking, it was at once refreshing and exciting for Florida to be at the center of the preservation arena. Through Capitman's efforts, a trove of architectural treasures were not only recognized for their extreme importance in the history of architecture, but Florida was recognized as a state that recognized the value of what it has and wouldn't let go of it.

Nationally, so many landmarks are gone. Pennsylvania Station, Wright's Larkin Building, too many to mention. But, Miami Beach's Deco District survives, and not as a museum. It's a living, breathing community of buildings that provides housing, restaurants, theatres and recreation for anyone who wants to partake of the architectural splendor of another time. I, for one, appreciate the work of one woman who fought to keep them there. DG

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President's Message

Together We Can Make A Difference

by Ray Scott, AIA

"It is not where we are that is important, but it is where we are headed."

Oliver Wendell Holmes

If Mr. Holmes were to write this message today, do you think he would feel the same way? I think he would.

The country is today, as it has always been, in a state of crisis. Traditionally, if the banks are not in turmoil, then stocks and the balance of payments are. Countries are at war, both internally and externally, and at home, Florida leaders are wrestling with growth management problems and cutting the budget. I cannot remember a time when there was enough money in the State's coffers to meet its many and diverse needs.

So, worrying about where we are right now is a waste of time . . . not only in Oliver Wendell Holmes' view, but in mine as well. The profession of architecture has seen tough times in the past and survived, and it will survive the recession of the 90s.

The important thing for you to know is that the State Association, the FA/AIA, is making adjustments to its programs to carry us through this difficult time and into the nineties. The magazine, *Florida Architect*, may be a little thinner at

times and we will have to cut our meeting schedule to offset the rising cost of travel, but the organization's primary focus will continue unabated. The most important thing for the organization right now is to keep the membership intact and not let negative concerns and fears divide us.

Another great thinker once noted, "No man is an island, entire of himself; every man is a piece of the continent."

Our visions for the future will include a continuing search for achieving excellence in the profession; working toward making both the public and members of allied professions more aware of what we do and why; and continuing to improve our organization so that it can continue to meet the needs of the members.

All of our goals and objectives for 1991 fall into one of those categories. Some of the more specific goals we hope to accomplish this year include:

- Balancing the budget so that we can not only live within our means, but also move toward elimination of the deficit.
- Conducting at least one seminar, conference or workshop every month in different geographical areas of the state so that we can reach more members at a lower cost.

- Developing a dues structure for our members which is responsive to the level of services received and the ability to pay.

- Pushing for legislation which will stem the tide of litigation costs to the architect through the passage of a Certificate of Merit statute for all suits against design professionals.

- Continuing to push for action by the Department of Professional Regulation against unlicensed practitioners.

- Opposing any taxing legislation which would create competitive disadvantages and high costs for Florida architects.

These are but a few of our goals for 1991. We need to be optimistic, positive and creative in our solutions to the problems that face us. We need to pull together and do as Oliver Wendell Holmes said, "... not dwell where we are but, look to the direction we are headed."

It is not failure that's a crime. It's low aim. James Russell Lowell said that over a hundred years ago and it's still true. I invite you to join us as we take aim at an opportunity to "make a difference in 1991." You'll be glad you did.



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Miami Beach Hosts World Conference

January 6-11, 1991, the City of Miami Beach will host the World Congress on Art Deco and what a program is planned! The four days of meetings and tours will begin with a tribute to Cole Porter in Gusman Hall. This command performance will feature the majestic sounds of the "Mighty Wurlitzer" filling historic Gusman Hall. A walking tour of the museum district, a trolley tour of historic homes, even a restaurant tasting tour follows. The business sessions will feature distinguished lecturers from all over the country.

On the evening of January 10, the annual "Moon Over Miami Ball" kicks off the traditional Art Deco Weekend January 11, 12 and 13. For three days, the sounds of live big bands will fill the warm ocean breezes as the sight of pastel buildings and Art Deco arts and antiques delights you. The experience should be both enjoyable and educational.

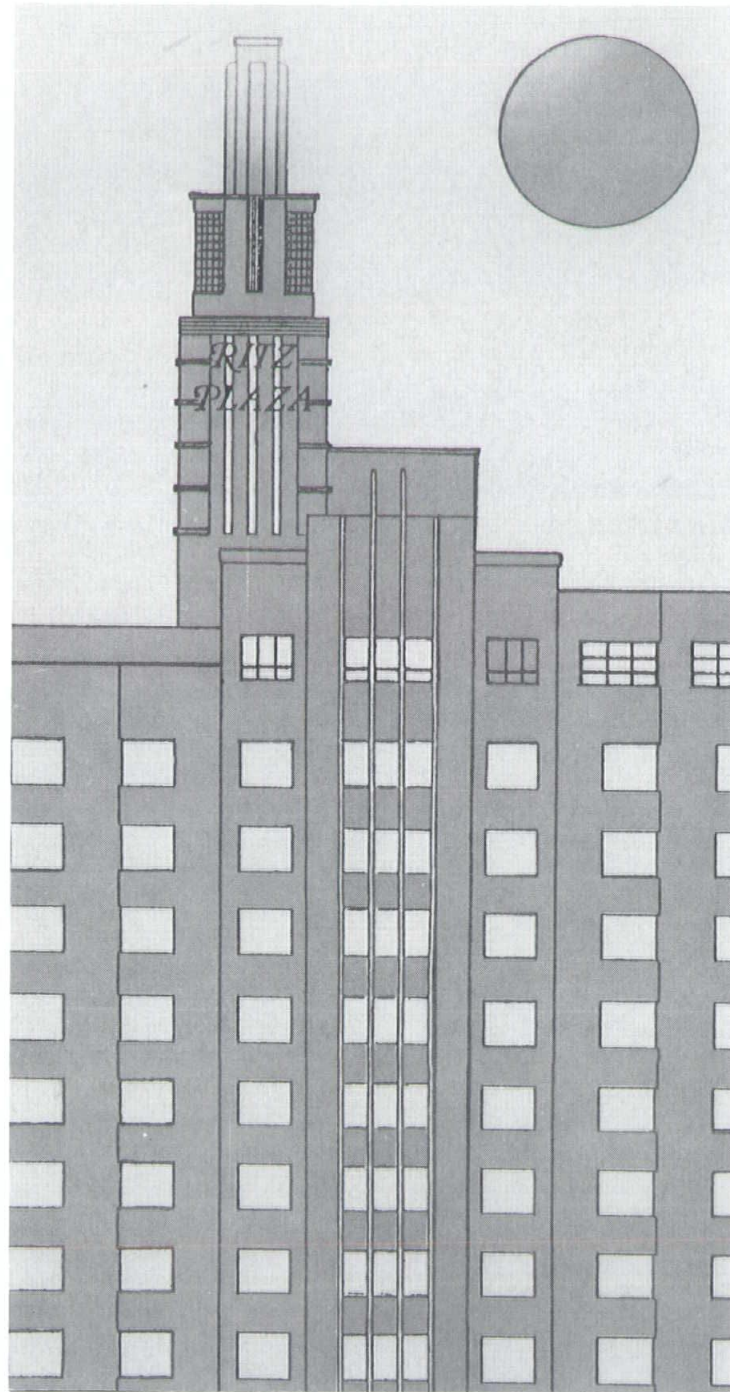
For more information about either event, call 305/672-2014.

Leading Architect Named To USF's Endowed Chair

A leading New York architect and urban designer has been named the first professor to the Sam Gibbons Eminent Scholar's Chair in Architecture and Urban Planning at the University of South Florida in Tampa.

Jonathan Barnett, director of the graduate program in urban design and professor of architecture at the City College of New York since 1971, will begin teaching at USF in the Spring of 1991.

A registered architect in New York and New Jersey and a fellow of the American Institute of Architects, Barnett has



been a Kea Distinguished Visiting Professor at the University of Maryland, William Henry Bishop Professor at the Yale School of Architecture and a visiting architecture review committee member at UCLA. He received his master's degree in architecture from Yale in 1963 and a master of arts from

Cambridge University in 1960.

The FAMU/USF Cooperative Master of Architecture Program was initiated in the fall of 1986. The Sam Gibbons Eminent Scholar's Chair was funded with a \$600,000 grant from the Good Gulfstream Foundation and a \$400,000 matching grant from the State of Florida.

"Understanding Florida's Handicapped Accessibility Codes" Seminar

A one-day seminar designed to help architects and engineers understand Florida's Handicapped Accessibility Code has been scheduled for January 26, 1991 at the Omni Hotel in Jacksonville.

Sponsored by the Florida Association/AIA, the seminar will be led by code experts including Albert Eisenburg, AIA, Senior Director for Federal Liaison and Tom Nicholson, Accessibility Specialist for the Codes and Standards Section of the Florida Department of Community Affairs.

Eisenburg will address the impact of the Fair Housing Act and other accessibility issues surrounding the new guidelines for the Americans with Disabilities Act. Eisenburg is the AIA's chief lobbyist on housing, disability access, copyright, infrastructure, and tax issues.

Nicholson has prepared a "One-Year Review of Florida's Handicapped Accessibility Code" and he will share a newly proposed "Glitch Bill." Larry M. Schneider, AIA, past president of the FA/AIA, will give an architect's view of the codes. The seminar is open to anyone interested in attending and all registrants will receive a copy of the AIA Accessibility Kit - "A Guide to Understanding the Americans with Disabilities Act."

Priority registration (\$95) ends January 23, 1991. Contact Melody J. Gordon, Meeting Planner, for registration details at 800-277-7590.

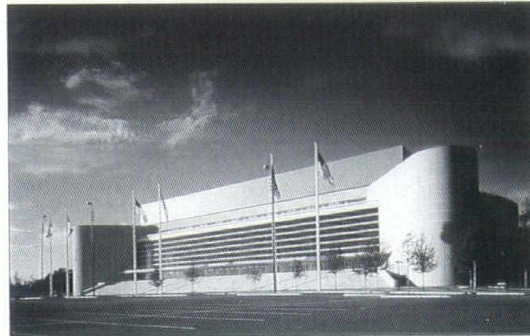


Chapter Design Awards

Mid-Florida Chapter

The Mid-Florida Chapter of the AIA presented six design awards at its bi-annual ceremony on October 6. The program was held in Winter Park where more than 200 architects and professionals from related fields viewed an exhibit featuring a total of 72 entries.

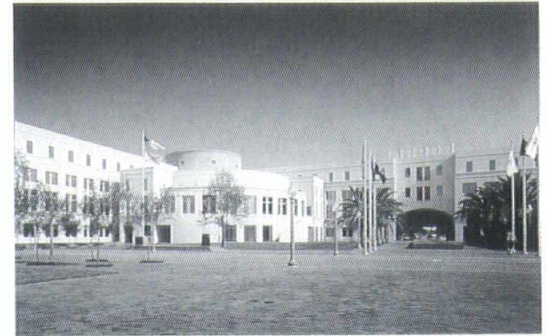
Six awards were presented in three categories including built, unbuilt and related professional disciplines.



Merit Award

Orlando Arena
Orlando, Florida

Architect: Joint Venture of Lloyd Jones Filpot Associates and Cambridge Seven Associates
Associate Architect: Ray Johnson & Associates



Merit Award

Volusia County Administration Center
Deland, Florida

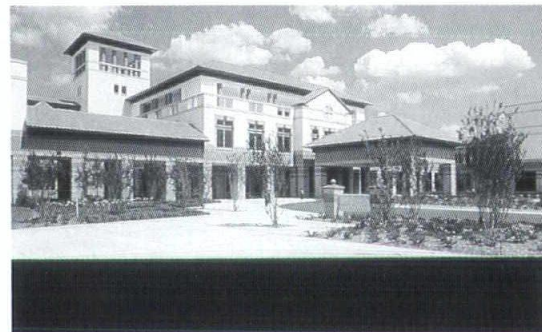
Architect: Spillis Candela & Partners Inc.



Citation Award

Residence for Alex & Cynthia Stone
Winter Park, Florida

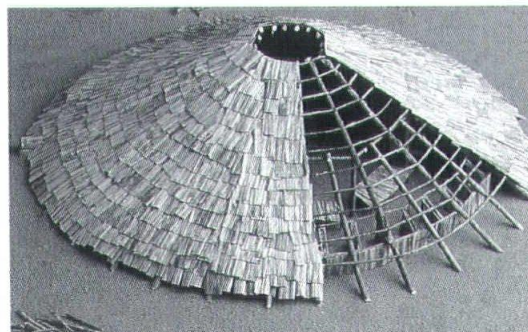
Architect: Alex Stone, AIA



Citation Award

Flagler Hospital
St. Augustine, Florida

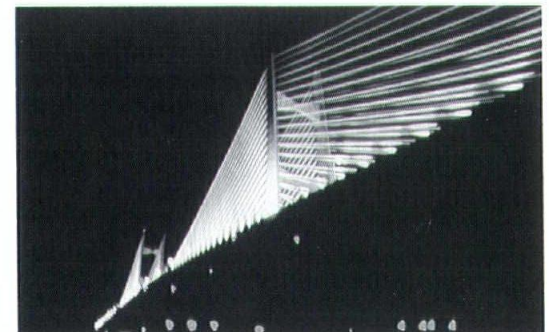
Architect: Hansen Lind Meyer Inc.



Merit Award – Unbuilt Design

San Luis Council House
Tallahassee, Florida

Architect: Architects Design Group



Honor Award – Related Professional Disciplines

Dame Point Bridge
Jacksonville, Florida

Lighting Consultant:

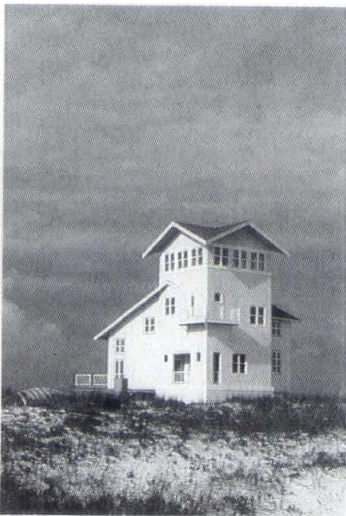
Robert J. Laughlin & Associates

Florida Northwest Chapter

The Florida Northwest Chapter of the AIA held their 1990 Design Awards Banquet in Pensacola in November. The evening featured a slide show of the 22 entries which were submitted for consideration. The program included a keynote address by Susan Maxman, AIA, National Vice President of the American Institute of Architects. Her address highlighted the collaborative effort required by many individuals to produce architecture and noted the valuable contributions significant architecture can make to a community.

The jurors for the Awards Program were Thomas Marvel, FAIA, Santurce, Puerto Rico, Susan Maxman, AIA, Philadelphia, Pennsylvania, and Professor Gaines Blackwell, AIA, Auburn, Alabama.

Photo by *Peter Davis*



Honorable Mention

Benson Residence

Architect: Judy Royal, AIA

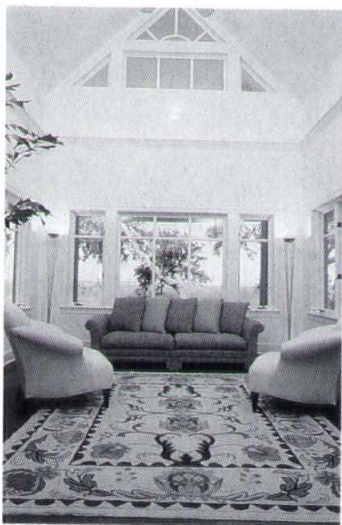


Photo by *Bill Day*

Award of Excellence

Mayo Residence

Architect: Spencer/Maxwell Architects

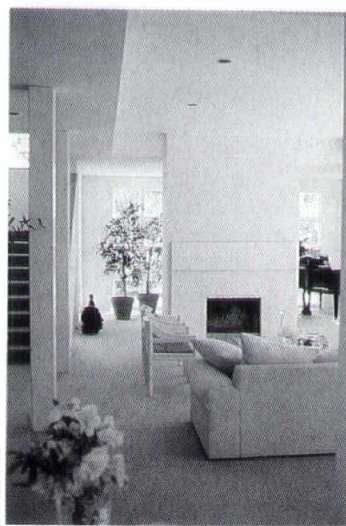


Photo by *H.T.C. Davis*

Award of Excellence

Davis Residence

Architect: H.T.C. Davis

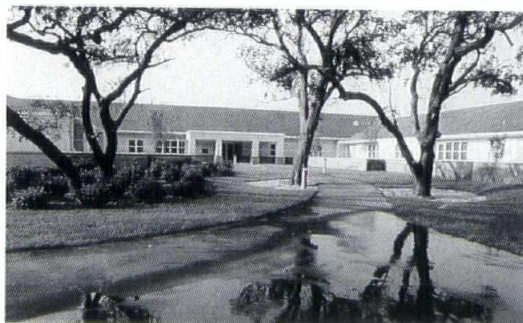


Photo by *Curt Shields*

Award of Excellence

Helen Caro Elementary School

Architect: Bullock Tice Associates

Photo by *Carter Quina*



Honorable Mention

Renovation of Five Salt Marsh Cottages

Architect: Carter Quina & Associates

Photo by *Gary Langhammer*



Honorable Mention

Graves Residence

Architect: William Graves & Associates

The Artistic Expression Of An Immense Tragedy

Holocaust Memorial Miami, Florida

Designer and Sculptor:

Kenneth Treister, AIA

Associate Designers:

Antonio Cantillo, Charles Treister

Architect:

Douglas Tilden

Structural Engineers:

Bliss

and Nyitray

Mechanical Engineers:

Martinez & Associates

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Jerusalem Stone

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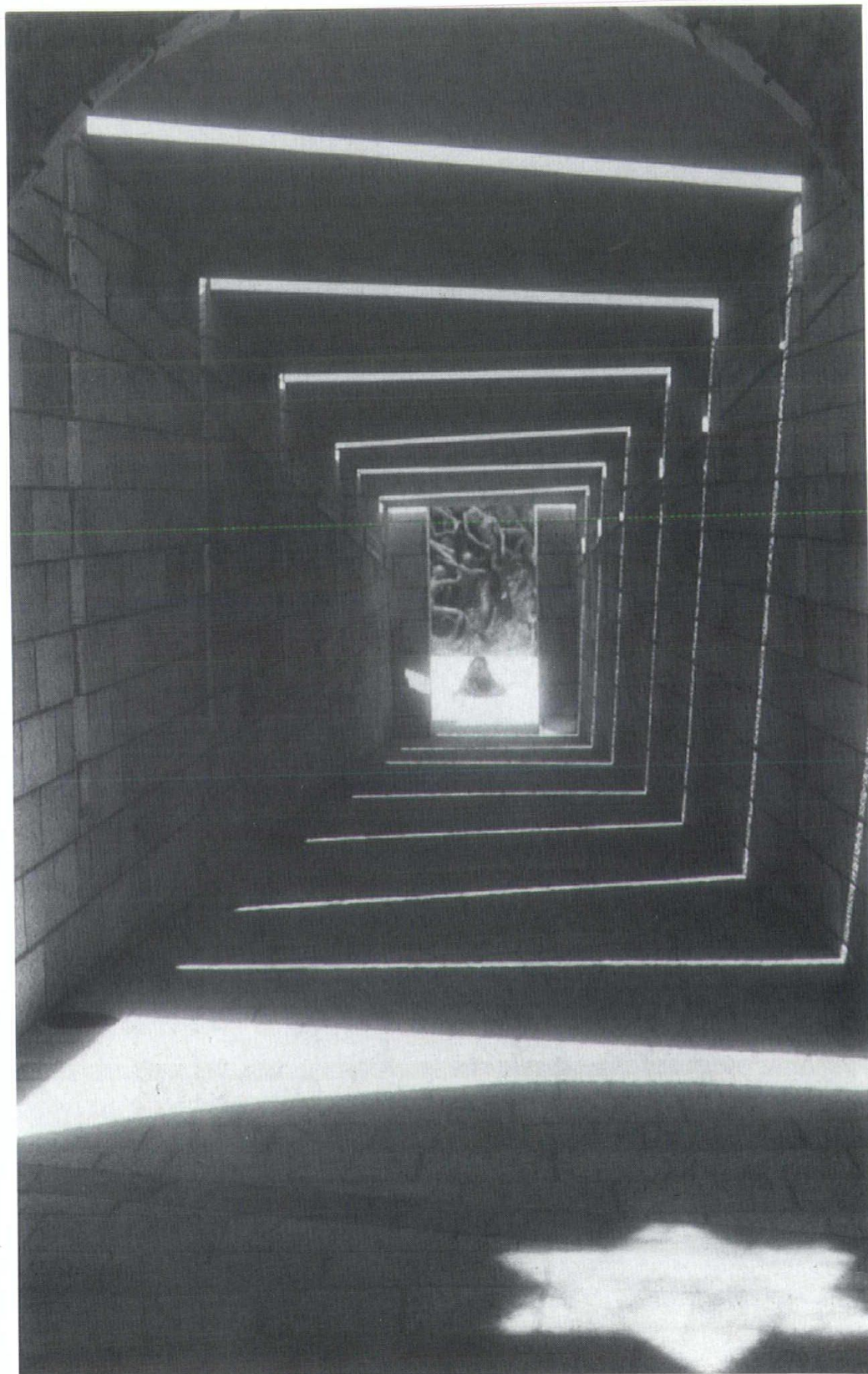
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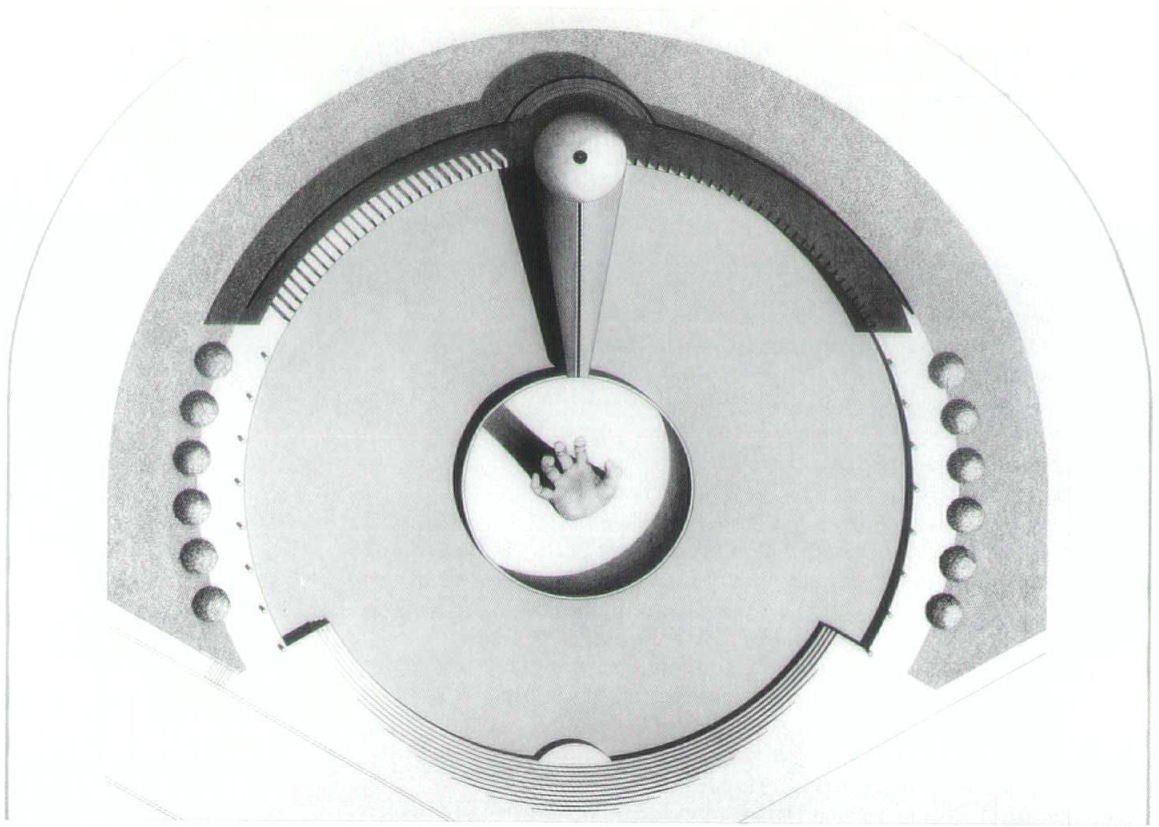
Ed. Note: *The following is Ken Treister's very personal description of the process of creating this monument to six million moments of death. In his own words....*

In 1985, I was retained by the Holocaust Memorial Committee to design a memorial to the memory of the Jewish culture and individuals destroyed by the Holocaust, to create a memorial garden that would serve in lieu of the cemetery that does not exist and to express in photographs and sculpture the history and sorrow of the Holocaust so future generations will not forget.

The five-year history of the Memorial's creation began with study and research and included three trips to the archives of Yad Vashem, Jerusalem's Holocaust Memorial.

No one can comprehend the number six million or the fact that each of the six million was a person with a family, friends and a full life . . . each enduring the most excruciating agony every second, minute, hour and day, of the Holocaust. The immensity of this tragedy is infinite. To express it artistically is impossible...but I had to try.





I created the Memorial as a large environmental sculpture . . . a series of outdoor spaces in which the visitor is led through a procession of visual, historical and emotional experiences with the hope that the totality of the visit will express, in some small way, the reality of the Holocaust.

Art today, particularly sculpture, is often purely an object, an isolated work suspended in time and space. Environmental sculpture, on the other hand, immerses the viewer totally in the work of art. This immersion adds the dimension of time and travel to the artistic experience. The visitor to the Memorial is therefore an active participant in the creation and his thoughts and emotions are molded as they are exposed to the unfolding spaces, images and forms.

A Garden for Meditation –

This serene and peaceful garden is dedicated to the memory of the beautiful European culture and its six million Jewish souls, now lost. The garden has a large plaza of Jerusalem stone, a water lily pond that is 200 feet in diameter and a classic semi-circular colonnade and arbor, all set against a backdrop of dense green palm forest.

The Beginning – The first sculpture is of a mother and two nestling children fearful as the signs of the Holocaust first appear. Their faces ask, “can it happen?” . . . “should we escape?” . . . “will God forsake us?” The sculpture is framed by Anne Frank’s message. . . . “Then in spite of everything I still believe that people are really good at heart”.

The Arbor of History – A semi-circular colonnade of Jerusalem stone columns support a wooden vine-covered arbor. Following the arbor is a series of black granite slabs etched with photographs of the tortured Holocaust history. The poignant introduction and captions were written by Professor Helen Fagin, historian of the Holocaust Memorial.

The Dome of Contemplation – The procession continues into an area enclosed by a dome

and semi-circular wall with an eternal memorial flame and inscription from the twenty-third Psalm. Piercing the dark interior of the dome is a shaft of light projected from a central yellow Star of David with the black letters “Jude,” the patch of ignominy.

The Lonely Path – The next space is a dark and lonely stone tunnel illuminated by thin slits of sunlight, the haunting voices of Israeli children singing songs from the Holocaust and the solemn memory of the camps carved into its walls. A crying child is seen in the distance and the cries get louder as one progresses along this lonely path. Leaving the dark tunnel, the visitor enters the sculpture patio and experiences a burst of sunlight and a soaring space crowned by the sky.

The Sculpture of Love and Anguish – This is my portrayal of the Holocaust . . . a scene from Hell . . . frozen in patined bronze. A giant outstretched arm, tattooed with people from Auschwitz, rises from the earth, the last reach of the dying. Some visitors see hope, some despair and for many, the question, “why?”

The free-standing bronze figures surrounding the base are lifesize which helps the viewer relate to and become part of the sculpture.

The Memorial Wall – The next path in the journey is a silent one . . . a walk by black granite panels etched with the countless names of martyred victims submitted by their loved ones.

The Final Sculpture – The journey ends. The final sculpture is of the same mother and two children who started the journey, now dead. The scene is framed by the words of Anne Frank . . . “Ideals, dreams and cherished hopes rise within us only to meet the horrible truths and be shattered.”

Six million moments of death cannot be understood, but we must all try.

Kenneth Treister





Coming Home To Three Part Harmony

Hernandez/Lambert Residence Hollywood, Florida

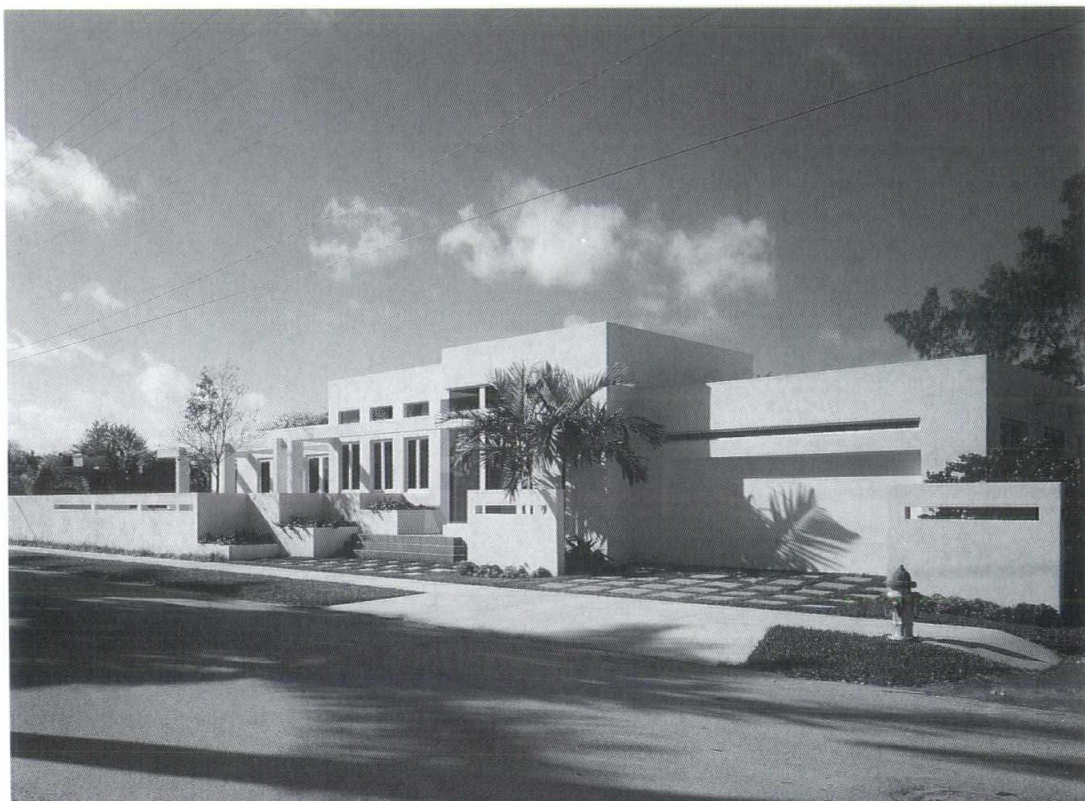
Architect: Jorge Hernandez, Architect, AIA, P.A.

This contemporary home occupies a corner site in one of the first planned communities in South Florida. Surrounded by houses dating from the 1920s, the Hernandez/Lambert house was built on one of only a handful of available lots.

Designing the house, which serves as the personal residence for the architect and his wife, Susan Lambert, also an architect, presented the problem of utilizing as little of the site as possible while providing maximum interaction between interior and exterior spaces. An additional goal was to enjoy the experience of living in an established pedestrian-oriented neighborhood while maintaining complete privacy for the occupants.

Functionally, the interior of the house is divided to accommodate formal, casual and utilitarian needs. It was decided that the tripartite theme would be carried out throughout the design beginning with the varying heights used in the facade. The space contained under the tallest part of the roof is living room, dining room and entry. Casual areas such as kitchen, family room, bedrooms and bath are beneath a roof of intermediate height while storage, laundry and garage have the lowest roof.

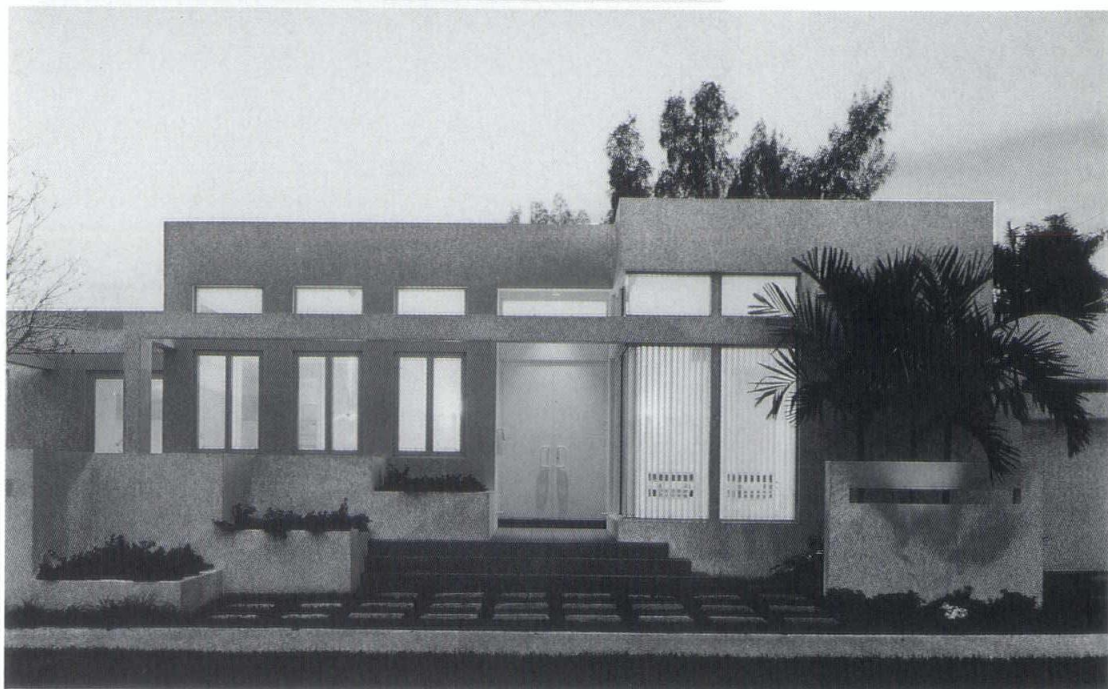
The initial tripartite concept, along with the desire to admit morning sunshine, produced an east-facing facade. The garage is on the north side



of the house. The main entry is situated between living and dining room spaces and is addressed by planters and steps leading to it. The entry is defined by a floating beam which penetrates the glazing enclosing the living room. To the left of entry, a series of casement windows denotes the dining area. When the house is viewed straight on, the casement windows are clearly situated directly over the planters leading to the main entry. Clerestory windows set high in the wall admit morning light and further accentuate the high ceilings. An exterior porch surrounds the remaining portions of the house allowing the exterior to flow inside and vice versa. Descent from the porch leads one to a private garden surrounded by a concrete block and stucco wall which is softened by the same tripartite use of slits.

The utilization of concrete pavers and grass instead of concrete walks and driveway helps soften the overall effect of house and site.

Interiors take their decoration from the form of the house. Kitchen and family room were designed as one unit and it is here that the family congregates. Lighting is a big part of the interior design as it respects the form created by the architecture.



Photos of front and side elevations and dining area by © 1990 Ed Zealey.

Classically and Organically Vernacular

Alfano Residence Tallahassee, Florida

Architect: Michael Alfano Jr.
A.I.A. Architect

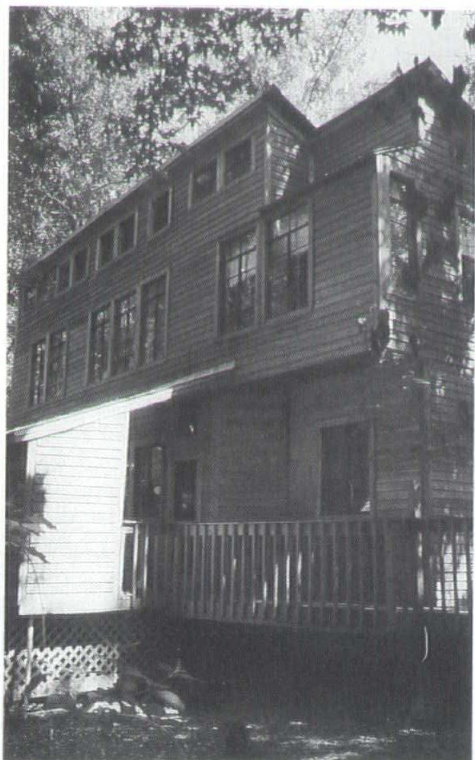
Designing and building his or her own house is probably one of the most difficult tasks an architect can undertake since there are so many ideas and design directions that can be explored outside the parameters of client imperatives. In this situation, there is a strong paradox between freedom and discipline that somehow has to be resolved.

Light is the key to the experience of this house designed by Tallahassee architect Michael Alfano, Jr., AIA. Light defines the interior volumes and also creates a kinetic pattern on the interior surfaces that helps make a small house seem larger and more complex. Oriented on an east-west axis and nestled on the south slope of a forested site, the building is concerned with the fusion of light, volume, structure and an understanding of the vernacular architecture of North Florida.

Essentially, the architect designed a vernacular house that uses a roof stack to help cool interior spaces. High windows on the north side help to vent the house most of the year. This volume, while allowing for maximum ventilation, also provides the opportunity for light to enter from above, thus accentuating the height of the main spaces by making the dark ceiling seem to recede.

The long axis of the house is broken by an exterior stair that serves the main entrance. One enters at a point four feet above the main floor and either ascends six feet to the





Photos by Michael C. Alfano

private spaces or descends to the living area. The descending stair inflects around a stripped-down classical column into the main sitting area. The interior details and palette are influenced both by classical and organic architecture. The juxtaposition of ideas gives a sense of both order and pattern to the interior spaces. The window pattern, with its placement of a small transom over each opening on the main level, seems reminiscent of classical forms.

Another aspect of this house is that it was built "out-of-pocket" over an eight-year period. The fine tuning of details and space use was an ongoing event that often led to a working over of the existing space. The surfacing of large areas with mahogany panels and cypress battens reinforced the perception of the total volume and added a counterpoint to the white plaster walls.

While designing and building his own house was a difficult one for the architect, it was also a rich and rewarding experience which profoundly influenced his understanding of "making architecture."

Security and Openness: A Paradox Resolved

Forest Glen Middle School Coral Springs, Florida

Architect: Donald Singer Architect
Structural Engineer: Donnell & DuQuesne, P.E.
Mechanical Engineer: Stolley & Associates
Civil Engineer: Berry & Calvin
Landscape Architect: Stresau, Smith & Stresau
General Contractor: R.F. Wilson, Inc.
Owner: School Board of Broward County

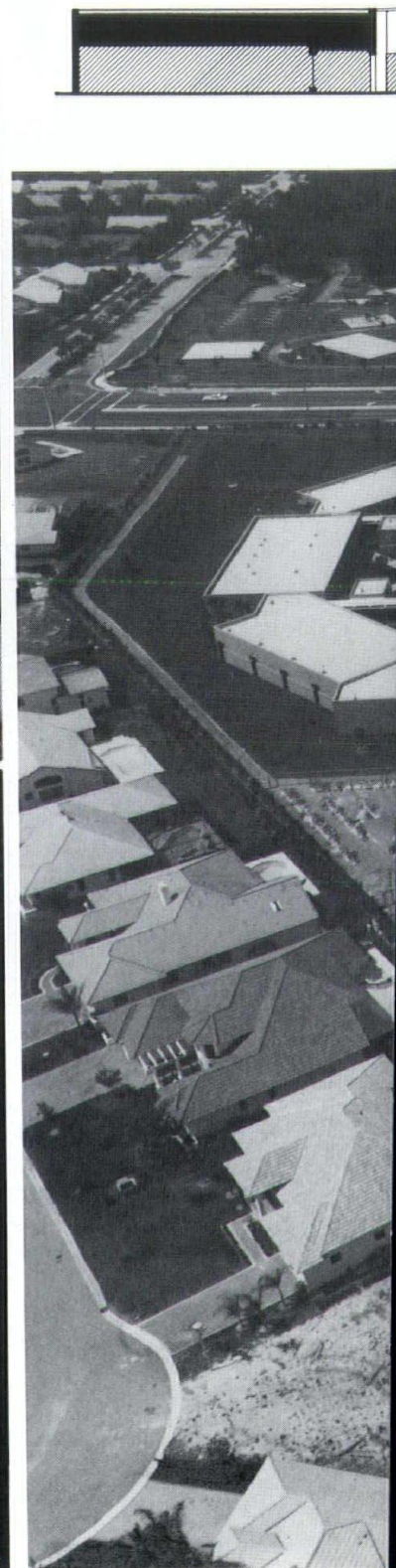
Forest Glen Middle School attempts to solve two conflicting requirements of school design – security and openness.

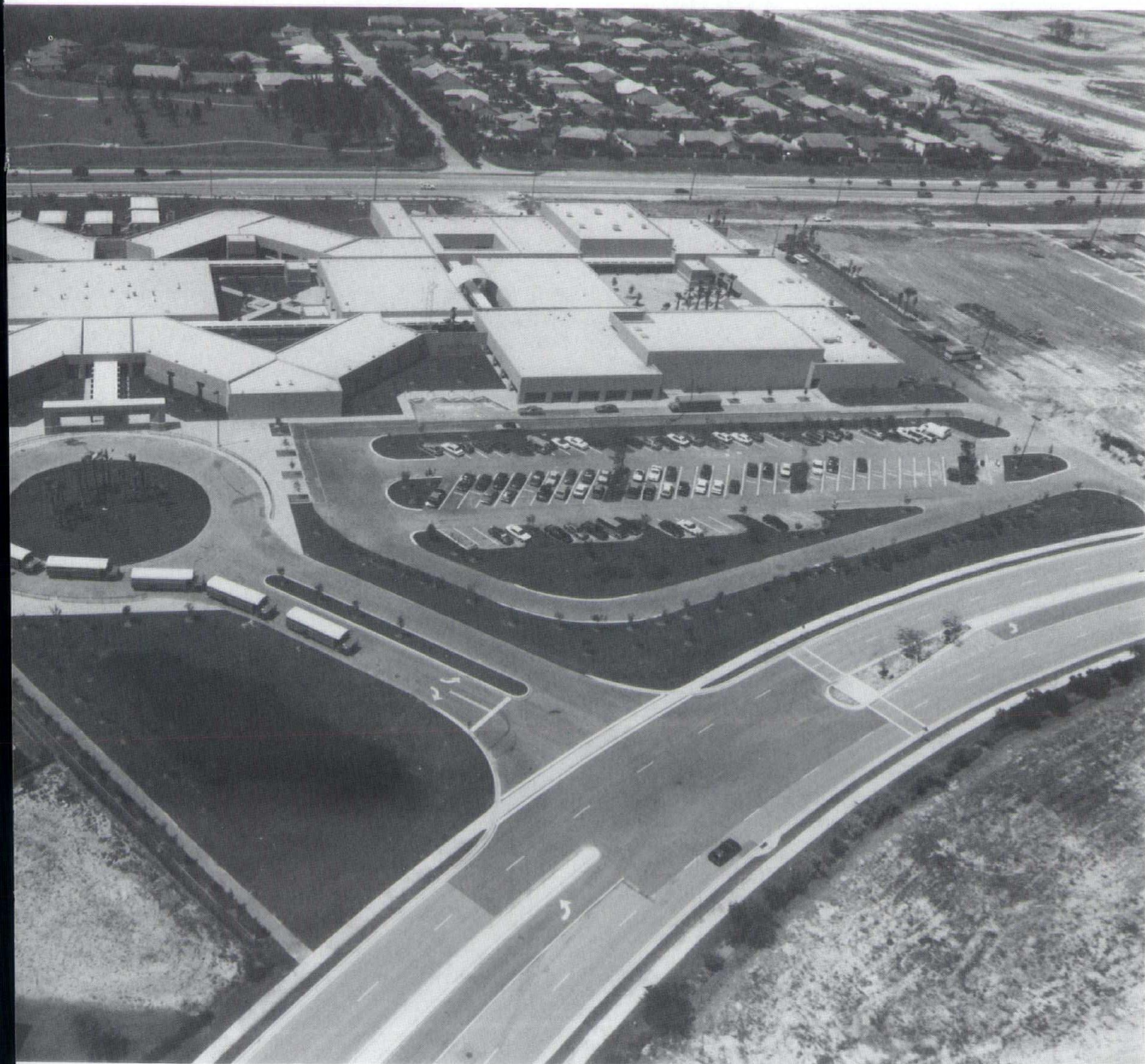
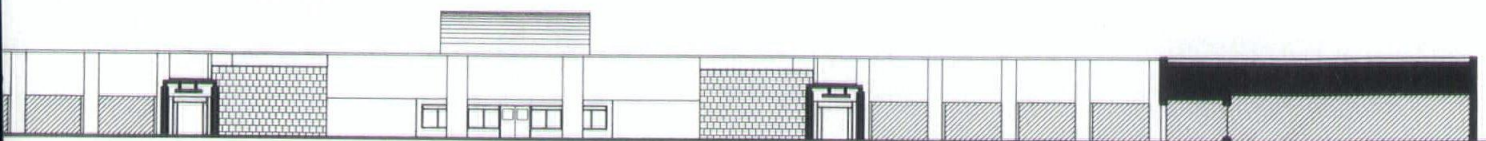
The desire for a view of the outdoors and the need for a secure environment for learning led to the planning of a series of three expansive landscaped courts enclosed by the functional spaces which fulfill the program requirements. The interior open space provides circulation and feeds the thirteen one-story buildings.

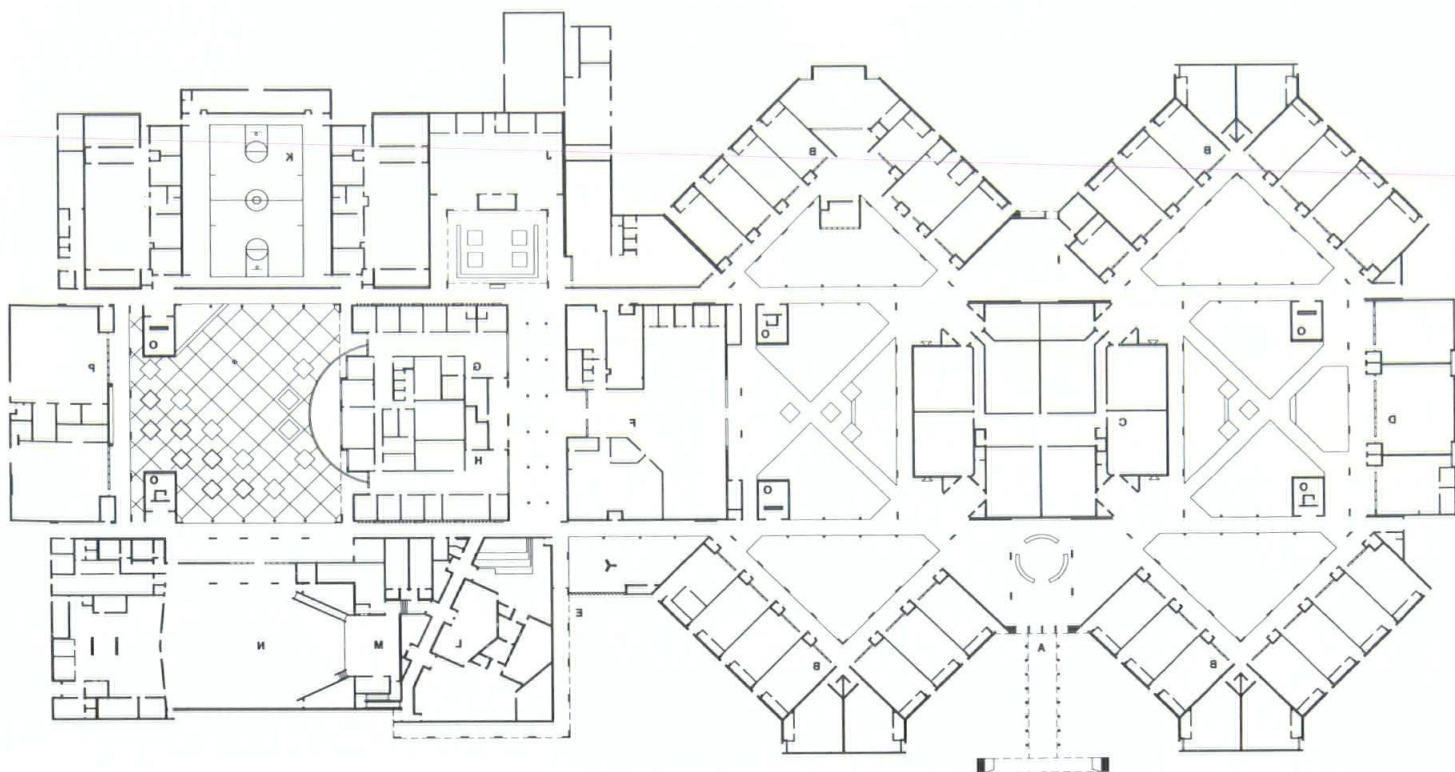
The classrooms border two grass-surfaced, landscaped courts and were planned to function either by grade level or curriculum. All classrooms have a view of the court.

A third court is a hard-surfaced area bordered by the assembly functions, food service and gymnasium. The court provides a gathering area for students both before and after

Photos: This page top: Covered walkway as it passes beneath canopy and below, paved courtyard between gym and cafeteria. Photos by Ed Zealy. Opposite page, elevation courtesy of Donald Singer Architect. Aerial photo by Smith Aerial Photography Inc.







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| C. SCIENCE LABS | N. CAFETERIUM |
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| E. VISITOR ENTRY | P. INDUSTRIAL ARTS |
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| K. GYMNASIUM | |

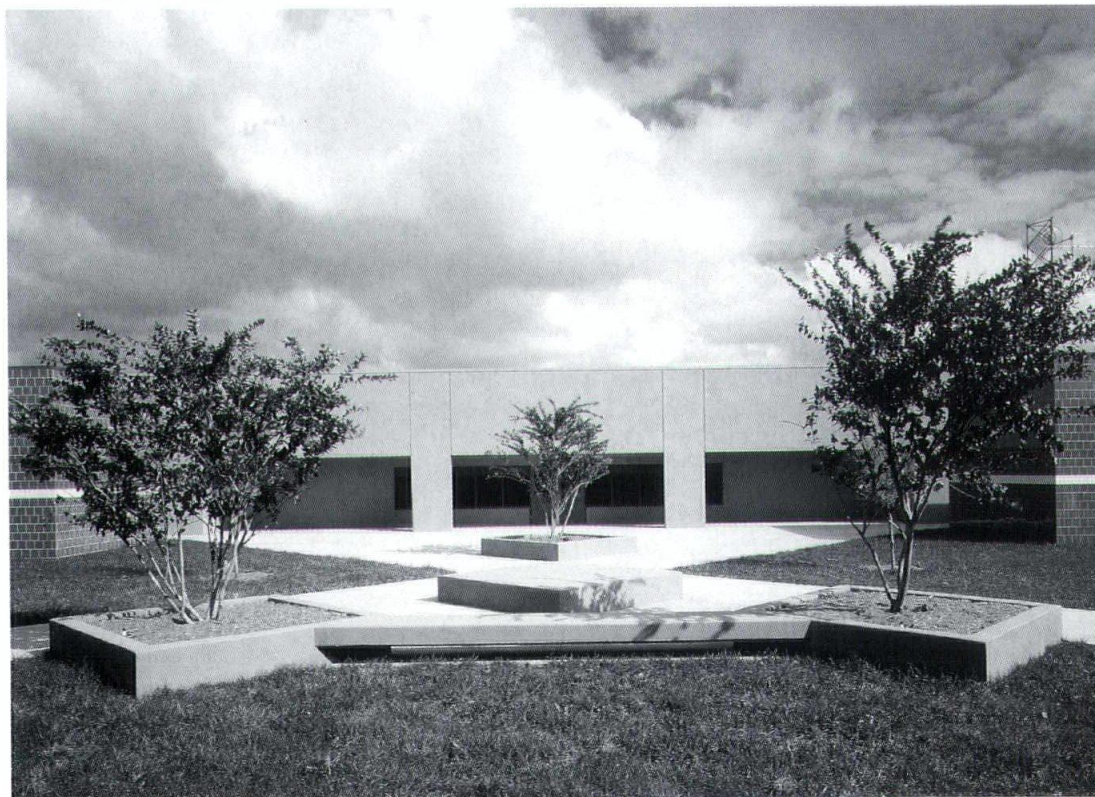


functions held in those buildings. This court is landscaped with trees in raised planters providing shaded seating areas for midday use. One corner features a raised platform for assembly functions.

The planning of the school permits limited areas to be opened for community use while maintaining security throughout the rest of the campus. The programmatic space surrounds the three courts and the interior circulation areas providing limited access and total security for the whole campus.

Additional features include a 500-seat auditorium/cafe-teria, 500-seat gymnasium, full locker rooms with showers, computer-aided instruction lab, computer skills lab, American industries lab, graphic communications lab, band rehearsal room, health occupations lab, business office lab, home economics lab and an exceptional education wing.

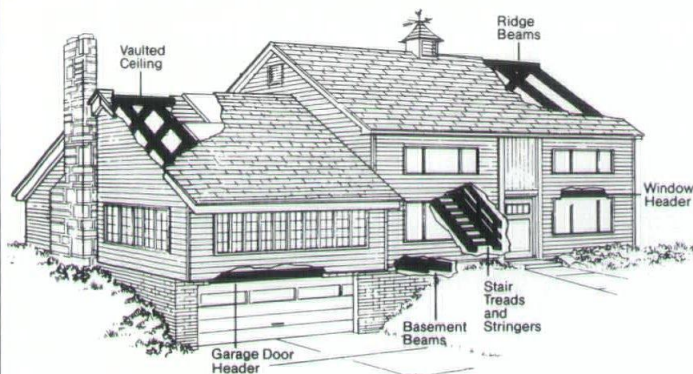
Plan courtesy of Donald Singer Architect. Photo of courtyard outside classroom buildings by Ed Zealy.





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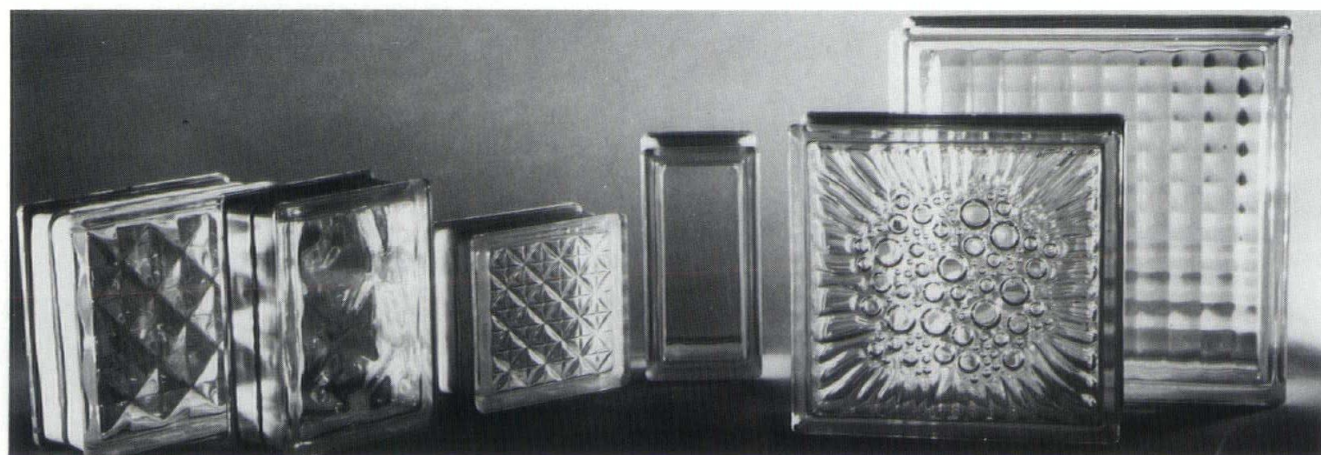
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Follow the Yellow Brick Road

Jane S. Roberts Elementary School Miami, Florida

Architect: Hervin Romney
Architect, Inc.

Design Team: Hervin Romney, AIA, Ani Zablah, Dominick Ranieri, Marice Chael, Jeffrey Warmington, Paul Titterington

Production Team: Hervin Romney, AIA, Louis Pedraza, Dominick Ranieri, Jeffrey Warmington, Marice Chael

Structural Engineer: Riva Klein Partners

Mechanical/Electrical Engineer: Lagomasino Vital, P.A.

Civil Engineer: G. Van Meek, P.E.

Lighting: Michael G. Asmar/Design Lighting

Landscape Architect: O'Leary, Shafer, Cosio, ASLA

General Contractor: TGSV Construction, B. Tompkins

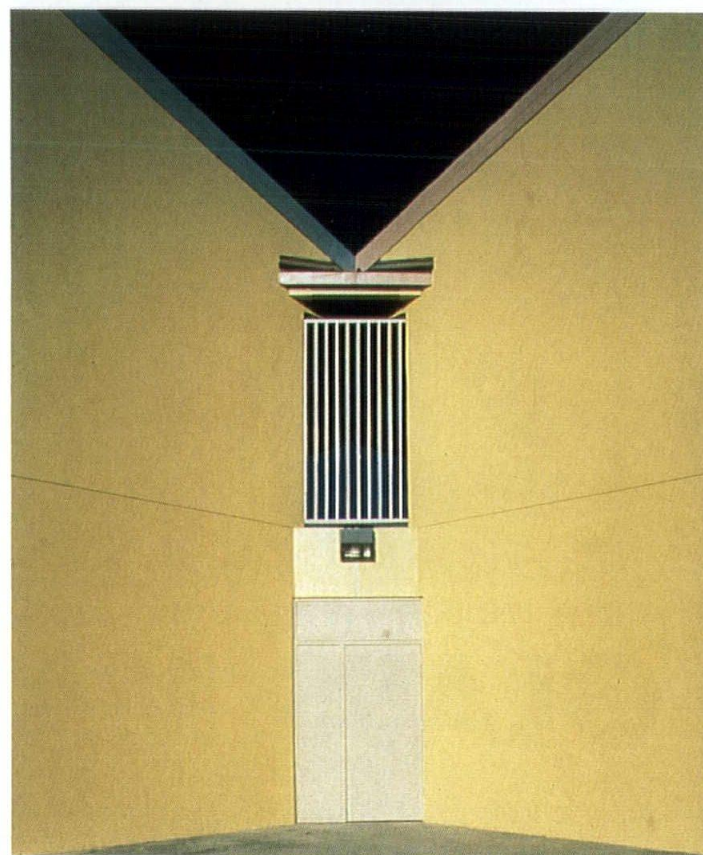
Owner: School Board of Dade County



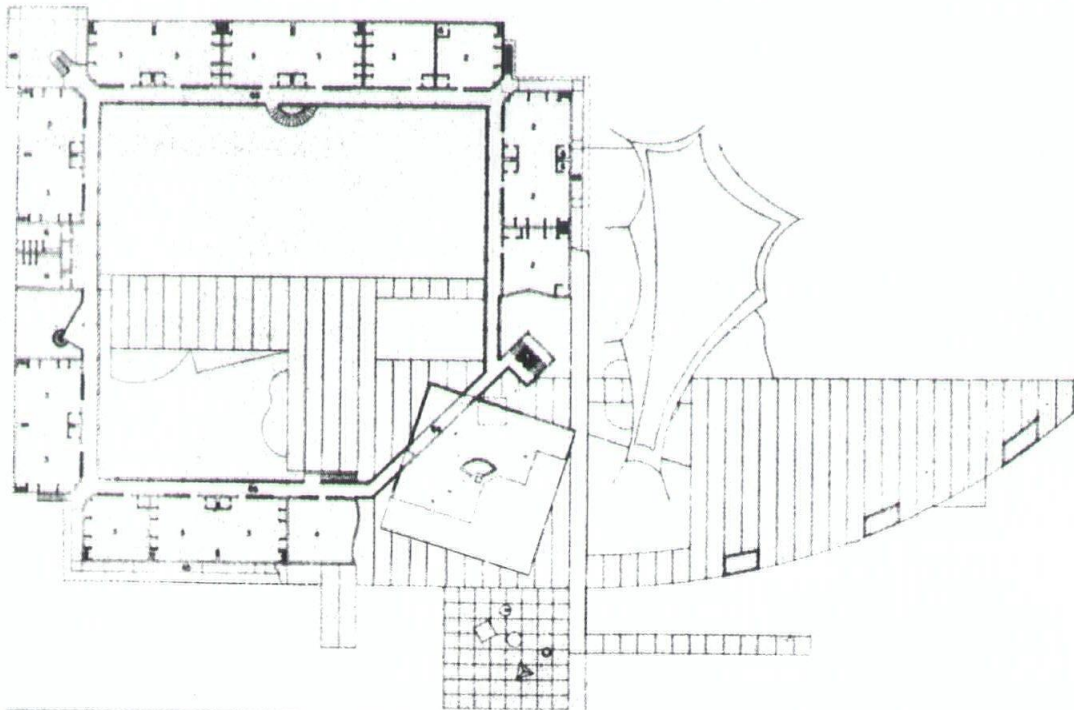
With 79,000 square feet of educational space for 870 students, Hervin Romney's prize-winning elementary school was recently completed at a cost of \$7.25 million. After more than four years, the design that won him the Centennial Competition for Dade County Public Schools is a reality.

All of the trademarks associated with Romney's work are present in Jane S. Roberts Elementary School. Present are the bold geometries, zig-zag roofs, free form curves and primary colors, including a blue elevator enclosure and red columns.

The distinct shapes of the classroom quadrangle, service wing and administrative block integrate into a complex that incorporates vernacular elements, traditional shapes and classical elements without the typical pseudo-classical disguises.

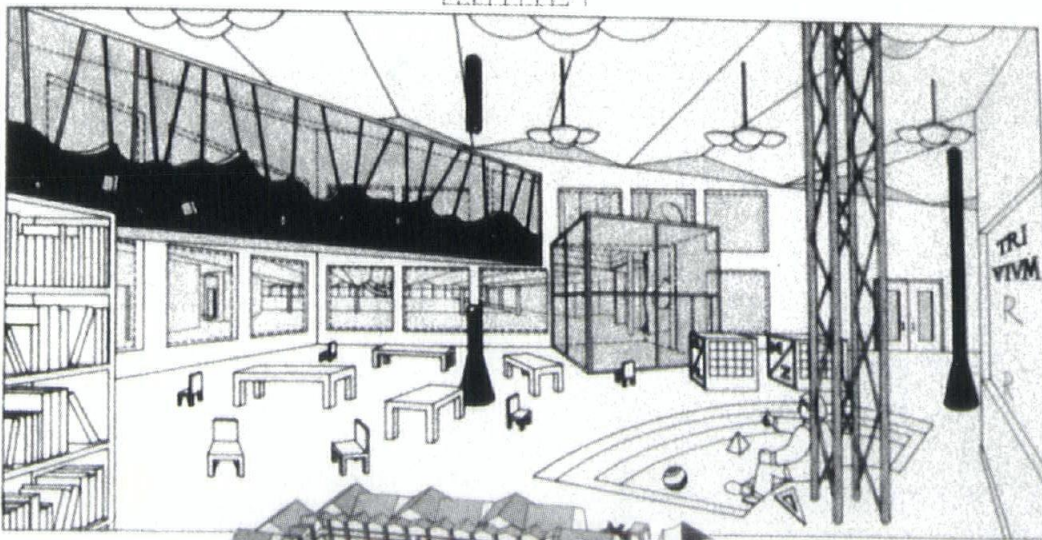


Photos, this page, top: *Entry detail* and below, *central cooling tower*. Photos by Raul Pedroso/Solo. Opposite page, plans and drawings courtesy of Hervin Romney Architect, Inc. Photographed by Jeffrey Warmington.

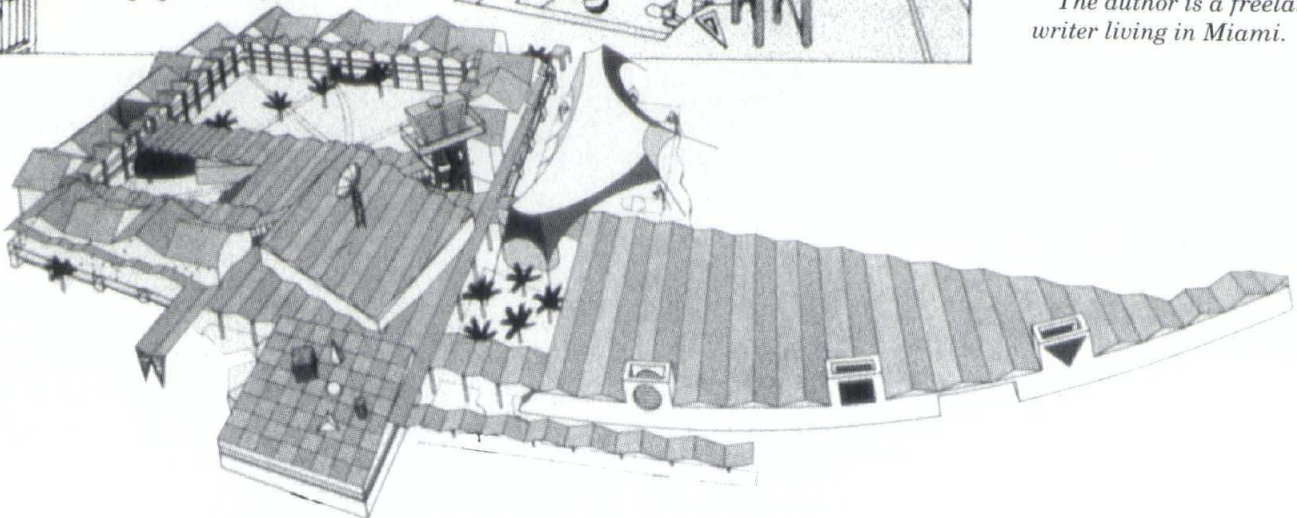


In this elementary school, the architect addresses the problem of multiple scales by juxtaposing a two-story traditional courtyard and a vernacularly-derived one-story multi-gabled ell enclosing the kindergarten play area. The footpaths in the courtyards trace the classical Golden Section proportioning system in a contemporary way. The vernacular nature of the pitched roofs is made modern by introducing bands of color.

Romney's use of color has taken on a different bent here. By combining alternating colors and zigzag shapes, Miccosukee Indian patterns are recalled, making references to long ignored regional cultures. In addition, by using pastels as a base melody, the primary colors have become accents throughout the school. Used in this way, the colors become a pathfinding system for space orientation, sort of an academic "yellow brick road." The school is anchored by the central cooling tower with its red, blue and yellow free form amoeba cutouts. *Vivian Gude*



The author is a freelance writer living in Miami.



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New Products and Services

Fiber Cement Building Boards . . . Why Their Use is Growing

In the building industry today, new materials come and go, but one that has recently established a strong and growing niche for itself is fiber cement. Though there are different kinds of fiber cement building materials, the one experiencing the fastest growth is a variety known as "autoclaved cellulose-reinforced fiber cement."

This material is most frequently formed into shakes, siding or sheets in a wide choice of sizes and is currently being used in the United States for roofing, siding, underlayment, soffit and paneling on residential and commercial buildings.

In Australia, New Zealand, Malaysia, Indonesia and most other Pacific rim countries, hundreds of millions of square feet of this material has been installed and successfully used for decades. The Pacific regions include some of the harshest, hottest and most moisture-laden climates on earth, not unlike Florida at certain times of the year.

Fiber cement's popularity is due to the benefits it offers over materials it replaces. For example, it has extreme resistance to moisture absorption, high strength and flexibility, it is relatively light weight for easy handling, fire resistant and it is not affected by sunlight, moisture, termites, rodents and other pests.

Roofing shakes and shingles made from autoclaved cellulose-reinforced fiber cement carry up to a Class A fire rating when properly installed. At least one company in the U.S. offers a 50-year limited, transferable warranty.

These roofing shakes and shingles won't split when correctly fastened and they resist hurricane-force winds and feature impregnated colors in seven shades. They install just like wood shake and can be laid to provide a shake, shingle or slate look, plus eliminate breaking, splitting and waste problems common to other types of roofing materials which are not as light. These weigh about 400 pounds per square.

A new high-tech, stucco-alternative system is now being introduced in the sunbelt region and it combines autoclaved cellulose fiber reinforced sheathing from a 100-year-old Australian company with an elastomeric texture coating from a 40-year-old U.S. company. The resulting system, which looks like stucco, can achieve effects ranging from intricate architectural moldings and trims to finishes ranging from flat to rough textured.

James Hardie Building Products, Inc. is the wholly-owned subsidiary of Australian-based James Hardie Industries, Inc., the company which produces these fiber cement products. The company's products include Hardishake, The Hardi-texture System, Hardiplank and Hardibacker, Hardipanel and Hardiliner. All products have written warranties. If you'd like information about any of these products, write to the southeastern U.S. office at 10577 Rocket Blvd., Regency Industrial Park, Orlando, FL 32824 or call 1-800-343-5771.

Terra Cotta: Trials and Triumphs

There is nothing unusual about the use of terra cotta in Florida. The word means "burnt earth" in Italian and it

has been used for everything from flower pots to gargoyles since the time of the Roman empire. Although similar in composition to brick, terra cotta is made of a finer grade of clay and fired at higher temperatures, allowing it to be molded or extruded into plain panels or decorative shapes of ornate detail.

Terra cotta enjoyed a surge in popularity as a building material in this country from the 1890's to the 1930's, particularly in Florida and California. It has always been popular for skyscraper trimmings because it's lighter than stone and its molds can be reused, allowing for repetitious ornament that

can be cheaply produced. It is also fire resistant.

Today, however, there are few large scale terra cotta suppliers left in the country which presents problems for the architect faced with the challenge of renovating buildings adorned with glazed terra cotta in a deteriorated condition.

For this reason, many architects search for alternative replacements that may be more suitable, particularly where freeze-thaw climates expand and contract the material. Terra cotta, once the great "imitator of stone," is now being replicated in cast stone, epoxy-coated concrete and even coated aluminum. One relative

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newcomer to the field is a proprietary glass fiber-reinforced ceramic-like material, which is the star in the largest terra cotta replacement program ever undertaken. A New York architecture firm, The Stein Partnership, is currently using it to replace thousands of pieces of terra cotta on the main tower of Shepard Hall on the City College of New York campus. The new material, called DesignCast, is used as a 3/8-inch skin over a carefully designed structural system and it may prove to be fireproof in addition to lightweight, stable and colorfast. **AIA News**

Conference: IFRAA

The Interfaith Forum on Religion, Art and Architecture, a national organization and affiliate of the American Institute of Architects, will be holding an IFRAA Regional Design Conference in St. Petersburg, Florida on February 8-10, 1991. The membership of IFRAA includes architects, liturgical designers, artists, craftspersons and clergy of various denominations dedicated to the highest standards in art and architecture for sacred space.

The conference will consist of a walking tour of the oldest places of worship and other historical buildings in the St. Petersburg downtown area on Friday, February 8th, a design conference on religious architecture and art on February 9th, a banquet dinner at the Salvador Dali Museum on Saturday evening and an IFRAA Board of Directors meeting on Sunday, February 10th. A slide presentation of the 1989 and 1990 IFRAA National Design Architecture and Art Award Winners and slides of Florida religious art and architecture will be shown at the conference.

Nationally known speakers in the fields of religious architecture and liturgical design and history from across the country will participate in the design

conference. Our special guest speaker will be Clovia Heimsath, FAIA from Houston, Texas who will speak on "Designing Holy Places."

We are requesting submittals from architects, liturgical designers, artists and craftspersons of religious projects completed or planned in the State of Florida. Submittals will be selected by an IFRAA panel for presentation to the conference participants on Saturday, February 9, 1991.

Submittals will be in the form of 35mm color slides and be limited to a maximum of eight slides of each project submitted. Submittals must include a brief project description, religious denomination, location, firm name and design team members, cost of building only (optional), and date of project's completion or planned start. Please note that all slides and information submitted will be kept by IFRAA unless return postage and mail-

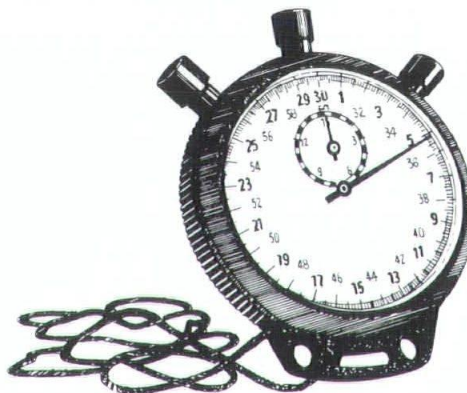
ing information is included with each submittal. The deadline for submittals has been extended until 25 January 1991.

For more information or registration forms for the conference, or to submit slides, please call or write to the: Florida Director of IFRAA, Richard M. Takach, ASID, 2401 West Bay Drive, "The Manor House", Largo, Florida 34640, (813) 586-0197 or FAX (813) 581-0197.

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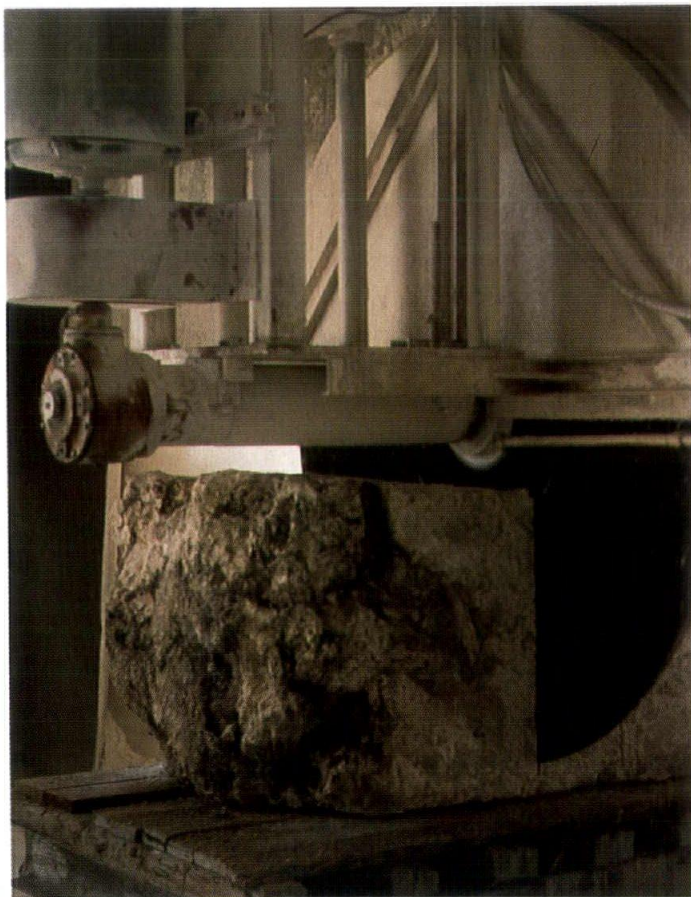
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Technical Update: Long Span Floor Systems

by William C. Mignogna, P.E.

(Editor's Note: The following is the first of three "Technical Update" articles developed by the West Palm structural engineering firm of O'Donnell, Naccarato & Mignogna for *Florida Architect*.

Florida Architect readers can receive a free copy of O'Donnell, Naccarato & Mignogna's full report on long span floor systems by calling 407-471-5166, or writing the firm at 1665 Palm Beach Lakes Blvd., West Palm Beach, 33401.)

While short span floor framing systems (25-32') are less expensive than long span systems, many building developers and tenants today have design specifications requiring open, column-free space which cannot be achieved with short spans. In such cases, the challenge is to choose the long-span system which can accommodate client needs at the least possible cost.

In general, stress cannot be used as the primary criteria for sizing members for long span floor construction. For spans in the 40' range, stress-based calculations result in live load deflections in the range of 1 1/2" to 2" (compared with typical deflection of less than 1" for spans under 30'). This deflection level may be structurally sound but can be annoying to tenants and may cause slopes that make occupancy uncomfortable. The design criteria of deflection-to-span ratio such as $L/240$ does not apply for most long span conditions. In addition to stress, long span floor design must consider deflection, vibration, cost, fire rating and post-construction flexibility.

What follows is a brief review of several long span systems with pros and cons for each, as well as relative costs. For purposes of this article, we've defined long span as between 32 and 50'. Beyond that length,

additional criteria apply and costs increase significantly. All costs and conclusions here are relative to a very generic building. Specific buildings require individual analysis by the project's structural engineer, architect, mechanical engineer and owner/leasing agent.

• **Structural steel joists with 3" concrete slab.** This is the least expensive way to frame long span floors, but deflections will be on the high end of permitted limits and vibration will be uncomfortable for many tenants unless careful design adjustments are made. Relative cost factor for purposes of this article: 1.0.

• **Precast concrete joist and beam soffits with cast-in-place slab (40x30 grid).** Description—16" joists with a 3" composite slab span of 40'; beams with precast soffits spanning 30'. *Pros:* Produces a sound floor with excellent resistance to deflection and vibration. Desired fire rating is achieved by varying slab thickness. Holes can be placed in floor easily. *Cons:* Dead weight of building will be more than with other systems, resulting in increased foundation costs. Construction time is longer than structural steel systems. Cost index factor: 1.25.

• **Precast plank on steel frame, precast plank on concrete frame, or precast plank on bearing wall.** Using a 12" hollow core precast plank, you can achieve a 40' span with relatively good deflection and vibration resistance. Steel members, other precast elements or bearing walls can support the 12" long span plank.

Pros: Ease and speed of construction, quick follow-up of the mechanical trades, sound floor with excellent resistance to deflection, vibration and sound control. *Cons:* Lack of flexibility in placing holes in

the floor. The dead weight of the building is considerably more than with other systems and must be accommodated with a small increase in foundation size (which can be expensive for buildings with deep foundation systems). Precast plank systems do not lend themselves to office buildings which cannot tolerate immovable bearing walls.

Long span precast members must be cambered as much as 1 1/2" to 2" and a topping is usually required to provide a smooth, level floor. Though generally very practical, the precast plank system does not lend itself to irregularly shaped buildings, curved areas, triangular areas, sloped areas on roofs, or occupancies with high flexibility requirements. Cost index factor: 1.15 if used on a steel or precast frame, and 0.90 if used on masonry or precast bearing walls not integrated with architectural layout.

• **Composite beam, girder and deck construction (40x40 grid).** Description—wide flange beams with steel shear studs welded through the steel deck to form a composite section with a 4-6" concrete slab which is cast on 1 1/2" to 3" deep steel deck. Tying slab to steel beam produces a stiffness greater than the beam alone.

Pros: Excellent resistance to deflection and vibration. *Cons:* The composite construction is calculated on the concrete at a 28-day strength. During construction, the stresses within the steel beams are different than those of the final condition. Criteria such as beam shoring or cambering much be considered during design. Beams may have to be a bit overdesigned so acceptable deflections can be maintained during construction. Relative cost factor: 1.33 over bar joists and thin slab. Anticipate 24-

30" depth of construction.

• **Structural steel joist girder, joist construction.** Description—joist girders span long direction at spacing of 20-25' to support short span open web joists. Design criteria is similar to structural steel joist system but uses deep trusses with heavy members. Normal criteria for best utilization is to select a girder depth which is equal in inches to its span in feet (e.g. 40" for 40'). Depth of construction is comprised of the 40" joist girder depth plus 5 1/2" to 7" for the short span bar joist seats and concrete slab. So, for a 40' span, a 48" construction depth is normal.

This depth is not a problem if mechanical construction uses the rather large openings through the trusses for ducts and piping. The ceiling can be placed directly beneath the bottom chord of the joist girder.

Pros: When properly integrated with the mechanical system, this design will produce a good system at relatively low cost (relative cost factor—1.1 over the joist system), and provide excellent deflection resistance due to the low span to depth ratio. Vibration resistance is also excellent. *Cons:* Additional ceiling construction costs will be incurred if 2 or 3 hour fire ratings are required. Also, system favors straight, modular bays; triangular or irregular shapes will increase cost. System is best suited to buildings which don't require a fire rating, or those where the ceiling can satisfy fire rating requirements economically.

Fire Ratings — Closely spaced, open web bar joist type construction and thin concrete slabs do not lend themselves to spray fireproofing. If an hourly rating is required, this type of construction would have to use the floor ceiling assembly to achieve fire rating. Wide flange beam construction is well suited

to sprayed fireproofing, forming an integral fireproofing assembly requiring no special ceiling construction. When reviewing long span options, the cost factor for fireproofing, fire-rated ceilings and the like must be considered.

One final note: Long span construction introduces unusual design considerations which may not be encountered frequently by detailers, fabricators, contractors and other members of the project team, so early team coordination is essential.

(NEXT MONTH—THE MASONRY WALL.)

The author is President and Principal with O'Donnell, Naccarato & Mignogna, based in West Palm Beach, and providing structural engineering services nationwide.

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Construction Issues Workshop Set

Construction issues from the owner's perspective will be the focus of an intensive two-day conference in Lake Tahoe, Nevada, on February 20 and 21, 1991. The conference, under the leadership of Roy Wilson, P.E., will present distinguished speakers from all parts of the construction industry.

Subjects covered during this two-day "work hard, play hard" conference will include issues like management controls on a construction project, the role of the design professional and his or her potential liability and how to control the cost of litigation. As one of the speakers, Wilson will discuss how to evaluate construction claims, how

LONGSPAN FLOOR SYSTEMS EVALUATION CHART					
PROPERTIES TYPE OF CONSTRUCTION	COST	VIBRATION	FIRE RATING	MECHANICAL ELECTRICAL COMPATIBILITY	FLEXIBILITY POST. CONST.
STRUCTURAL STEEL JOIST AND STEEL FRAME WITH 3" CONCRETE SLAB	E	P	P	G	G
PRECAST CONCRETE JOIST AND BEAM SOFFITS	G	E	E	G	G
PRECAST CONCRETE PLANK ON STEEL FRAME	G	G	G	E	P
PRECAST CONCRETE PLANK ON PRECAST CONCRETE FRAME	P	E	E	G	P
PRECAST CONCRETE PLANK ON MASONRY BEARING WALL	E	E	E	P	P
COMPOSITE BEAM CONSTRUCTION	G	E	G	G	G
STRUCTURAL STEEL JOIST GIRDER AND JOISTS	E	E	P	E	E
RATING CODE: E = EXCELLENT G = GOOD P = POOR					

to determine their true cost and how to prepare a successful defense against claims which are not valid.

Other topics will include construction surety, how to manage a large capital improvement program and what to look

for when evaluating a construction schedule. Speakers include attorneys, engineers and construction managers from well-known firms all over the country.

Roy Wilson is President of Wilson Management Associ-

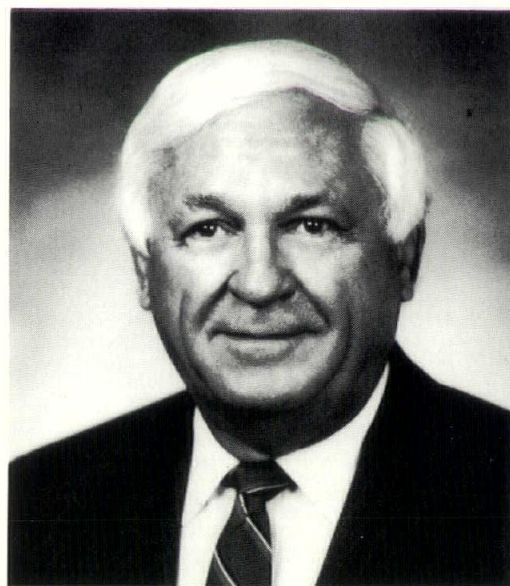
ates, a New York consulting firm which specializes in the prevention of construction claims and the resolution of disputes. Anyone interested in attending the two-day conference should contact Karen Villano at 516/759-2300.

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